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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,606	05/19/2005	Jakke Makela	915-001.057	7630

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WARE FRESSOLA VAN DER SLUYS &  
ADOLPHSON, LLP  
BRADFORD GREEN, BUILDING 5  
755 MAIN STREET, P O BOX 224  
MONROE, CT 06468

EXAMINER
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AGUSTIN, PETER VINCENT

ART UNIT	PAPER NUMBER
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2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/535,606	<b>Applicant(s)</b> MAKELA ET AL.	
	<b>Examiner</b> P. Agustin	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-32 and 35-49 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-9,23-26,33 and 34 is/are rejected.
- 7) ☒ Claim(s) 2,6 and 10-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This application is a 371 of PCT/FI02/00954, filed November 27, 2002.
2. Claims 1-49 are now pending.

***Election/Restrictions***

3. The restriction requirement of March 9, 2007 has been withdrawn in light of applicant's amendment to the claims dated May 8, 2007.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 33 & 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 recites that said first light beam is transmitted and guided *transversal* towards said data tracks of the optical storage medium, and said second light beam *perpendicular* to said data tracks of the optical storage medium. This is inconsistent with the recitation in base claim 27 that both first and second light beams are guided *transversal* towards said data tracks of the optical storage medium. This renders the claim indefinite.

Claim 34 is dependent upon claim 33.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-5, 7-9 & 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spruit et al. (US 5,442,597) in view of Wakabayashi et al. (US 4,669,073).

In regard to claim 1, Spruit et al. disclose a device (Figure 7a) comprising: an optical storage medium drive (Figure 7a); an optical storage medium (Figure 6, element 1 – it is understood that the embodiment of Figure 7a includes a similar storage medium) comprising a plurality of data tracks; at least one access unit (inherent “lens holder” where lens 35 is mounted) for reading out data from and writing data to said optical storage medium; at least one light source (41) arranged to produce at least one first light beam (br) and at least one second light beam (bw); optics (45) arranged to transmit and guide said first light beam and said second light beam towards said data tracks of the optical storage medium; and a detector (Figure 6, element 18 – it is understood that the embodiment of Figure 7a includes a similar detector) arranged to detect light beams that are reflected from the surface of the optical storage medium, said optics (45) and said detector (18) are arranged to move in accordance with the movement of said access unit (it is understood that elements 35, 45 & 18 are all mounted on the same lens holder), said optics (45) are arranged to guide said first light beam (br) transversal (as shown in Figure 7a) towards data tracks of the optical storage medium in accordance with the movement of said access unit, and said detector (18) is arranged to receive the reflected beams of said first light beam or said second light beam from said data tracks of the optical storage medium (as shown in Figure 6) in order to control the movement of said access unit (this is understood from column 7, lines 15-18: “centered on the information track” and “focused on the information plane”).

In regard to claim 3, Spruit et al. disclose that said access unit (inherent “lens holder” where lens 35 is mounted) is arranged to be movable to a position, in which said first light beam (br) and said second light beam (bw) transmitted from said optics (45) towards said data tracks of the optical storage medium (1) form a first point (Figure 6, V'r) and a second point (Vw) on said data tracks of the optical storage medium (1) where the reflected light beams are detected to be in focus and on track by said detector (as shown by the dashed line in Figure 6).

In regard to claim 4, Spruit et al. disclose that said first point (V'r) is arranged to be located in a different location than said second point (Vw) on said data tracks of the optical storage medium (as shown in Figure 6).

In regard to claim 5, Spruit et al. disclose that said first point (V'r) is arranged to be located slightly ahead of said second point (Vw) on said data tracks of the optical storage medium (as shown in Figure 6).

In regard to claim 7, Spruit et al. disclose that said optics (45) are arranged to guide said first light beam (br) transversal (as shown in Figure 7a) towards said data tracks of the optical storage medium, and said second light beam (bw) perpendicular (as shown in Figure 7a) to said data tracks of the optical storage medium.

In regard to claim 8, Spruit et al. disclose that said first light beam (br) is arranged to read out data from said data tracks of the optical storage medium and said second light beam (bw) is arranged to write data to said data tracks of the optical storage medium.

In regard to claim 23, Spruit et al. disclose that said optics and said detector further comprise a waveguide or lightguide (e.g., element 45 “guides” the light beam to the lens holder

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where lens 35 is mounted) arranged to transmit said first and second light beam and/or said reflected light beams of said first light beam or said second light beam along said access unit.

In regard to claim 24, Spruit et al. disclose that said access unit (inherent “lens holder” where lens 35 is mounted) an arm unit.

In regard to claim 25, Spruit et al. disclose that the device comprises a first access unit (inherent “lens holder” where lens 35 is mounted and configured to irradiate the recording medium 1 with read laser beam br) for reading out data from the optical storage medium, and a second access unit (inherent “lens holder” where lens 35 is mounted and configured to irradiate the recording medium 1 with write laser beam bw) for writing data to the optical storage medium, wherein said first access unit and said second access unit is one of the following: an arm unit (understood from “lens holder”), a sledge unit or any combination of an arm and sledge unit.

In regard to claim 26, Spruit et al. disclose that said device is a communication device (broadly interpreted, and consistent with applicant’s disclosure, Figure 6 is a communication device because it involves transferring of electrical/optical signals between components).

However, Spruit et al. do not disclose: in regard to claim 1, that said access unit (inherent “lens holder” where lens 35 is mounted) is arranged to pivot on one end at a pivot point in order to move three-dimensionally in relation to the pivot point; and in regard to claim 9, that at least one light source is arranged to be located at or substantial proximity of the pivot point of said access unit.

Wakabayashi et al. disclose: in regard to claim 1, an access unit arranged to pivot on one end at a pivot point in order to move three-dimensionally in relation to the pivot point (see front

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cover); and in regard to claim 9, a light source (included in block 45) is arranged to be located at or substantial proximity of the pivot point of said access unit (as shown).

It would have been obvious to one of ordinary skill in the art at the time of invention to have applied the teachings of Wakabayashi et al. to the device of Spruit et al., the motivation being to provide an optical disk drive apparatus having a remarkably reduced moving mass (inertia) for achieving high speed access to a target track (see column 2, lines 25-28) and to achieve high stability and fine trackability for focusing and tracking performance (column 2, lines 35-37).

***Allowable Subject Matter***

8. Claims 27-32 & 35-49 are allowed over the prior art of record.
9. Claims 2, 6 & 10-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claims 33 & 34 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
11. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record alone or in combination fails to teach or suggest:

in claim 2, that said optics are arranged to guide said first light beam and said second light beam transversal towards data tracks of the optical storage medium in accordance with the movement of said access unit;

in claim 6, that said first point and said second point are arranged to be located in a same intersection point on the track of the optical storage medium;

in claim 10, that said optics comprise at least one first optical component for bending said first light beam and said second light beam towards said data tracks of the optical storage medium, and at least one second optical component for bending and focussing said first light beam and said second light beam transversal towards said data tracks of the optical storage medium;

in claim 15, that said first laser source and said second laser source are arranged to be synchronized by a synchronizer; and

in claim 17, that said detector comprises at least one detector element for detecting the reflected light beams of said first light beam or said second light beam, and a third optical component for bending and focussing said reflected light beams of said first or second light beam.

Claim 27 has similar allowable features as claim 2.

Claims 11-14, 16, 18-22 & 28-49 are dependent upon base claims indicated as having allowable subject matter.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bakx (US 5,155,717), Bricot et al. (US 4,344,164), Carlsen (US 4,295,162), Fujita (US 5,033,040), Gelbart (US 6,819,639), Ohki et al. (US 4,157,568), Komurasaki et al. (US 4,334,299), Lee et al. (US 6,845,079), Lee et al. (US 5,504,731), Musha et al. (US 4,423,495),



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Opheij et al. (US 4,546,463), Shuman (US 5,657,164), Tani et al. (US 5,568,458), Versluis (US 4,855,987) and Yonezawa et al. (US 4,703,408) are all pertinent to applicant's disclosure of simultaneous transmission of multiple beams in optical storage systems.

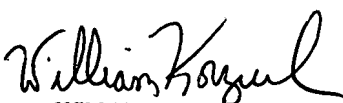
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Thursday 8:30-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Agustin/  
P. Agustin  
Art Unit 2627

  
**WILLIAM KORZUCH**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**